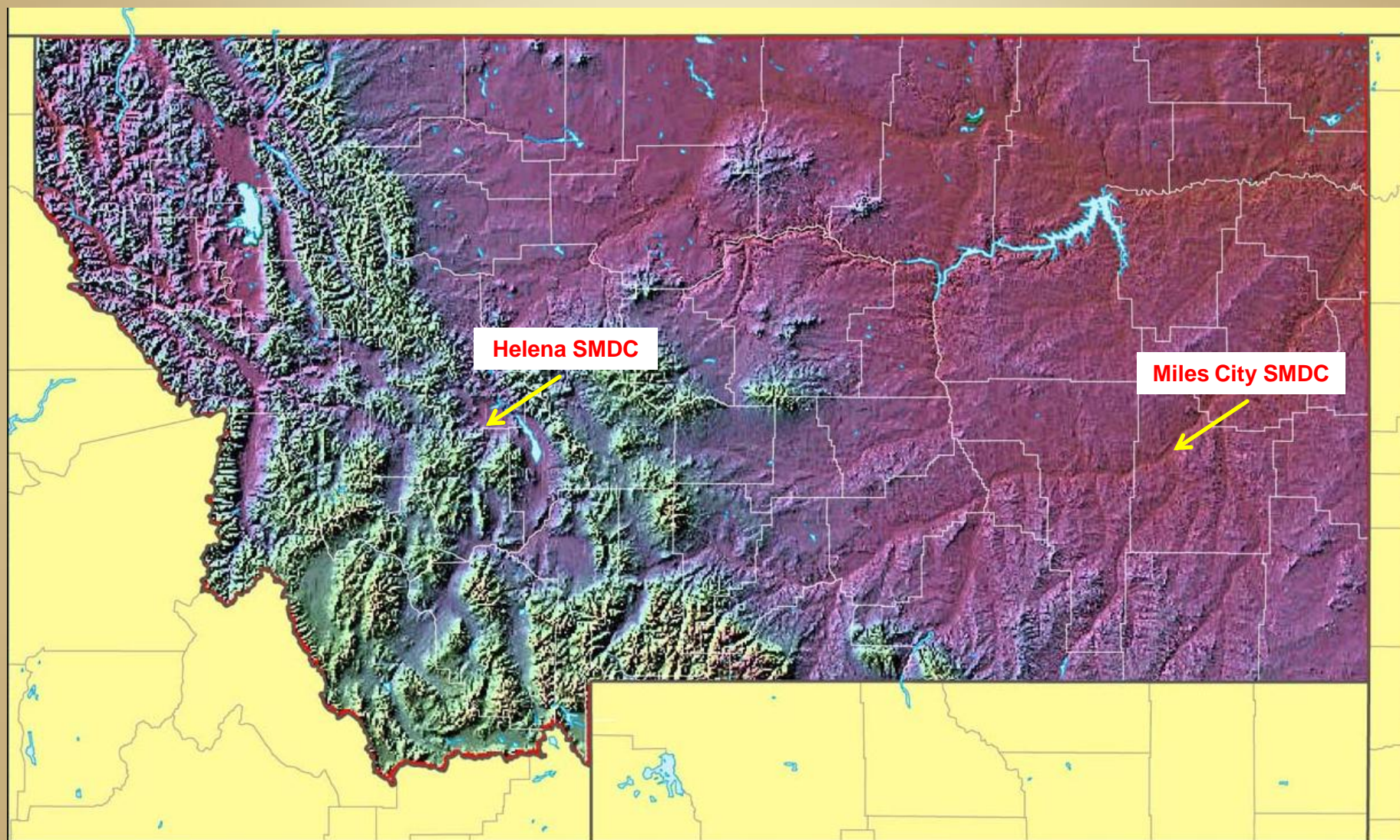


State of Montana Data Centers (SMDC)

Helena, MT Facility





The site plan illustrates the proposed layout for a new building at the University of North Carolina at Chapel Hill. The plan features a central building footprint with various rooms and a large parking area to the left. The surrounding landscape includes lawn areas, native grasses, and topographic contours. The plan also shows the location of the existing building and the proposed building's orientation relative to the north arrow.

Key features and labels on the plan include:

- Native Grasses:** Areas designated for native grasses, located primarily along the perimeter of the site.
- Lawn:** Lawn areas, including a large lawn to the left of the parking area and smaller lawn sections near the building.
- Parking:** A large parking area located to the left of the building, with individual parking spaces marked.
- Building Footprints:** The proposed building footprint is shown in the center, with various rooms and a large parking area to the left. The existing building footprint is shown to the right of the proposed building.
- Topographic Contours:** Contour lines indicating the elevation of the site, with labels such as 4010.00, 4015.00, 4020.00, etc.
- Orientation:** A north arrow is located in the bottom right corner of the plan.



Helena SMDC

2008 Conceptual Rendering



Helena SMDC

Actual – November 25, 2009





Construction Update

- Helena SMDC Building (incl. MEP) – 85% complete.
- Start-up, testing, and commissioning of building systems to begin week of December 14, 2009.
- Substantial Completion date currently set as February 4, 2010.
- IT Equipment “Migration” phase will occur following Substantial Completion.



Design Team

- **A&E Architects** – Lead Consultant/Project Management
- **Total Site Solutions** – IT Center Consultant/Mission Critical Facilities
- **Gordon-Prill-Drapes** – Mechanical/Electrical Engineer
- **Whitten & Borges** – Structural Engineer
- **Peccia & Associates** – Civil/Survey Engineer
- **Tetra-Tech** – Geotechnical Investigation
- **Foley Group** – Landscape Architect



Helena SMDC Design

- Based upon Data Center Requirements Analysis by TSS
 - Needs Assessment
 - Growth Model and Load Analysis
- Target Tier III design – industry best practices
- Robust / Scalable building and systems
- High level of energy efficiency
 - KyotoCooling® rotary heat exchanger – “free cooling”
 - Heat Recovery systems – internal and external
- High level of Physical & Environmental Security
- 15,024 sq ft building
- 6,200 sq ft raised floor computer room constructed this phase
 - 13 rows of racks available
 - ITSD initially will occupy 2-3 rows
- 1,000 sq ft OPS Center
- “Hotel” work stations for non-permanent



Physical & Environmental Security

- 24x7 Manned Operation by the Enterprise Operation Center (EOC)
- DOD Security Standards for Critical Infrastructure
- Controlled, limited physical access – perimeter/building/data room
- Configuration area for new equipment
- Electronic/video monitoring – interior and exterior
- 2006 IBC Occupancy Category IV “Essential Facility” design standards (designed to be functional after 500yr-frequency seismic event)
 - No roof penetrations above technical spaces
 - Dual fire suppression system in data room – clean agent/pre-action
 - Utility and Generator Power Sources
 - Redundant Uninterruptable Power Supply (UPS)
 - Redundant connections to Capitol Campus network
- “Hitching Post” for Mobile Work Station

Helena SMDC – Long Section

